

powerline, means for reactively coupling the communication signals to the powerline without tapping the powerline, and means for receiving said communication signals at a second location.

Armstrong does not disclose a non-invasive powerline communications system as claimed in claim 38. The Examiner states that the applicant's claimed means for generating communication signals is met by signaling unit 24. However, signaling unit 24 directly taps into a powerline. The system of *Armstrong* "requires the connection of the signaling unit to the low voltage cabling". (emphasis added) (See Col. 6, lines 55-59). Indeed "the signaling unit 24 is also connected to the low voltage connection box 25. The signaling unit is powered from the low voltage connection box 25". See Col. 10, line 26 – Col. 11, line 2.

It is clear that the signaling unit of *Armstrong* is invasive as it is directly connected to a powerline. Accordingly, the system of *Armstrong* is invasive. As applicant claims a non-invasive powerline communications system, the invasive system of *Armstrong* fails to disclose applicant's claimed invention. Accordingly, claims 38-45 and 52-54 are patentable over *Armstrong*.

The Examiner also rejects claims 46-51 and 56 under 35 USC§103(a) as being unpatentable over *Armstrong* in view of U.S. Patent No. 5,559,377 to *Abraham*. However, as stated above, *Armstrong* fails to disclose a non-invasive powerline communication system as claimed by the Applicant. *Abraham* also fails to disclose such a non-invasive system. Accordingly, the combination of references fails to render claims 46-51 and 56 obvious.

The Examiner also rejects claims 57-67 as being unpatentable over *Abraham* in view of *Armstrong*.

Abraham does not disclose "means for reactively coupling the communication signals to the powerline without tapping the powerline" (emphasis added) as claimed in claim 57.

Abraham clearly teaches physically tapping the powerline by hardwiring the device to the powerline as shown in Figs. 4, 6, 6A, 7 and 8 of *Abraham*. The Examiner acknowledged in the

Office Action dated May 9, 2001 that *Abraham* fails to disclose this feature.

However, the Examiner asserts that *Abraham* discloses a coupling device which comprises air-coils with inductances L1 and L2 which are inductively and capacitively coupled creating an air-core transformer. See Col. 2, lines 16-43 of *Abraham*. The Examiner further asserts that *Armstrong* discloses a coupling device which inducts signals in a sheath, and that it would have been obvious to one skilled in the art to incorporate a non-contact means for not tapping the powerline as discussed by *Armstrong* with the system of *Abraham*.

With regard to obviousness, the law is clear that:

Obviousness cannot be established by combining the teachings of the prior art to produce the claimed invention, absent some teaching, suggestion or incentive supporting the combination. ACS Hospital System, Inc. v. Montefiore Hospital, 732 F.2d 1572, 1577, 221 USPQ 929, 933 (Fed. Cir. 1984).

Abraham does not disclose, teach, or suggest means for reactively coupling the communication signals to the powerline without tapping the powerline as claimed by the applicant. In fact, the above section of *Abraham* cited by the Examiner refers to Fig. 4 of *Abraham*, which clearly shows that the inductor L1 physically taps the powerline. Additionally, *Abraham* states that:

The first plurality of capacitors 34 are connected together in series between one of the power-lines 12 and the primary winding 38 of the first air coil 36. The primary winding 38 of the first air coil 36 is thereafter serially connected to the other power line 12. The secondary winding 40 of the first air coil 36 is connected to its respective transmitter means 16. The second plurality of capacitors 42 are serially connected together between one of power lines 12 and the primary winding 46 of the second air coil 44. The primary winding 46 of the second air coil 44 thereafter being serially connected to the other power line 12. As noted above resistors, 35 and 45 function to evenly divide the voltage and serve to minimize spiking and afford lightning protection. (Col. 8, lines 29-41 at *Abraham*) (emphasis added).

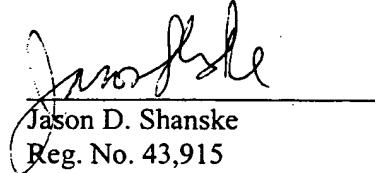
Applicant submits that it is clearly evident that each coupling network of *Abraham* taps the powerline. *Abraham* does not disclose, teach or suggest means for coupling the communication signals to the powerline without tapping the powerline as claimed by the applicant. Accordingly, applicants submit that claims 57-67 are not unpatentable over the cited

references.

Each of the Examiner's rejections has been addressed or traversed. Accordingly, it is respectfully submitted that the application is in condition for allowance. Early and favorable action is respectfully requested.

If for any reason this Response is found to be incomplete, or if at any time it appears that a telephone conference with counsel would help advance prosecution, please telephone the undersigned or his associates, collect in Waltham, Massachusetts, (781)890-5678.

Respectfully submitted,



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